

The present application only claims priority from Application Ser. No. 09/299,370, filed on April 26, 1999 (now U.S. Patent 6,414,433) (see page 1, present application, lines 4-7). Although issued patent 6,414,433, as printed by the patent office, does claim priority from 08/810,960, this priority claim was an error by the patent office. The Applicant has submitted a Certificate of Correction to the appropriate division to correct this mistake. A copy of the submitted Certificate of Correction and the accompanying documentation is attached. Applicant respectfully requests that the Examiner acknowledge the mistake in priority, and update the records in the present application accordingly.

Double Patenting Rejection

4. Claims 1-35 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 4-8, 11, 13, 15, 18, 20-24, 29, 30, and 35-43 of U.S. Patent No. 6,452,332 in view of Cheo (U.S. Patent 3,924,931). Applicant respectfully disagrees.

Applicant believes that this is an improper rejection. Applicant's agent attempted to discuss this rejection with the Examiner via a telephone conversation on December 18, 2002 and voice mail correspondence on December 23, 2002. Although the Agent requested support for a double patenting rejection over an issued patent in view of another issued patent (which has no common inventor or assignee), the Examiner could not point to any case law or any section of the M.P.E.P. which supported this rejection. Instead, the Examiner suggested that the Applicant file the response and explain why the rejection, as issued, is improper.

An obviousness type double patenting rejection is based on a judicially created doctrine grounded in public policy to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent. (see Office Action dated December 4, 2002, page 2, section 3). "Double patenting results when the right to exclude granted by a first patent is unjustly extended by the grant of a second patent. Before consideration can be given to the issue of double patenting, **there must be some common relationship of inventorship and/or ownership of two or more patents or applications**" (M.P.E.P. 804). Although U.S. Patent No. 6,452,332 does have the same inventor as the present application, U.S. Patent No. 3,924,931, has no such common relationship. Therefore, a double patenting rejection is improper.

In addition, double patenting rejections arise to “prevent prolongation of the patent term by prohibiting claims in a second patent not patentably distinguishing from claims in a first patent.” (M.P.E.P. 804). Here, the Examiner readily admits that “a lens function located on one section of the fiber surface... [is] not disclosed in the Moore patent.” (Office Action dated December 4, 2002, page 3, fourth paragraph). Clearly, this makes the present claims patentably distinct over those in the Moore patent.

The addition of the Cheo patent to create a double patenting rejection is improper. The Examiner states that “the lens function located on the fiber surface is well known in the art as taught by Cheo” (Office Action dated December 4, 2002, page 3, fifth paragraph). However, there is nothing in the M.P.E.P. or in the statutes that allow a double patenting rejection because an element **completely absent** from the patent by a common inventor is found elsewhere. Therefore, the Applicant respectfully requests reconsideration and withdrawal of the double patenting rejection.

The language the Examiner uses in the rejection indicates that the rejection she should be making is a 103 rejection. In order to expedite prosecution of the present application, the Applicant will also respond to the rejection as though it was a 35 U.S.C. 103 rejection of claims 1-35 over Moore in view of Cheo. However, if the Examiner decides that obviousness under 35 U.S.C. 103 is the proper rejection, she is required to issue a new, nonfinal rejection to this effect.

The Applicant respectfully traverses the obviousness of claims 1-35 over Moore in view of Cheo.

The basic considerations which apply to obviousness rejections under MPEP Section 2141 are:

- (1) the claimed invention must be considered as a whole;
- (2) the references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (3) the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and

(4) reasonable expectation of success is the standard by which obviousness is determined.

Claim 1 reads “a fiber for use in an electronic display, wherein said fiber comprises: a) at least one electrode; and b) a lens function designed into at least a part of said fiber.” As the Examiner admits, a lens function is not disclosed in the Moore patent. (present office action dated December 4, 2002, page 3, lines 12-15). However, the Examiner goes on to state that “the lens function located on the fiber surface is well known in the art as taught by Cheo.” (present office action dated December 4, 2002, page 3, lines 16-17).

Despite the Examiner’s assertions, Cheo does not teach or suggest a fiber with a lens function built into it, nor does the patent contain any electrode. Instead, the Cheo patent explains the method of making a thin film electrooptic switch for the telecommunication industry. Those skilled in the art now refer to this type of a switch as a wavelength division multiplexer (WDM). The only place in the Cheo patent that uses fibers is to bring the light signals into fiber optic transmission lines 38 and out of fiber optic transmission lines 46. (col. 4, lines 50-61). The waveguides in the WDM are etched into thin films and the lens 42 is used to split the different wavelengths into separate optical switches 32. The second lens 44 is used to recombine the non-selected wavelengths into the output fibers. The method described in the Cheo patent is totally unrelated to adding a lens function in a fiber or on the surface of a fiber. Therefore, the Moore patent and the Cheo patent, alone or in combination, do not teach or suggest the fiber in claim 1. Applicant respectfully requests any obviousness rejection of claim 1 the Examiner intends to make be withdrawn.

Dependent claims 2-19, being dependent upon and further limiting independent claim 1, should also be allowable for that reason, as well as for the additional recitations they contain. Applicants respectfully request reconsideration of the rejection of claims 2-19, in view of the above amendments and remarks.

Claim 20 reads “a fiber for use in an electronic display, wherein said fiber comprises: a) at least one electrode; and b) an aperture in said fiber such that said aperture is formed by at least one optically absorbing or reflecting region.” The Examiner does not point out anywhere in the Moore or Cheo patents where an aperture formed by at least one optically absorbing or reflecting region is taught or suggested. Perhaps this is because neither patent even mentions apertures.

Neither the Moore patent nor the Cheo patent, alone or in combination, teach or suggest a fiber with an electrode and an aperture in the fiber formed by at least one optically absorbing or reflecting region. Instead, the Moore patent discloses a fiber-based PALC (plasma addressed liquid crystal) display device including two plates sandwiched around a top fiber array and a bottom fiber array. The top and bottom fiber arrays are substantially orthogonal and define a structure of the display, with the top fiber array disposed on a side facing towards a viewer. (see Abstract).

As discussed above, the Cheo patent explains the method of making a thin film electrooptic switch for the telecommunication industry. The only place in the Cheo patent that uses fibers is to bring the light signals into fiber optic transmission lines 38 and out of fiber optic transmission lines 46. (col. 4, lines 50-61). The waveguides in the WDM are etched into thin films and the lens 42 is used to split the different wavelengths into separate optical switches 32. The second lens 44 is used to recombine the non-selected wavelengths into the output fibers. The method described in the Cheo patent is totally unrelated to a fiber including an aperture in the fiber. Therefore, the Moore patent and the Cheo patent, alone or in combination, do not teach or suggest the fiber in claim 20. Applicant respectfully requests any obviousness rejection of claim 20 the Examiner intends to make be withdrawn.

Dependent claims 21-25, being dependent upon and further limiting independent claim 20, should also be allowable for that reason, as well as for the additional recitations they contain. Applicants respectfully request reconsideration of the rejection of claims 21-25, in view of the above amendments and remarks.

Claim 26 reads “a fiber for use in an electronic display, wherein said fiber comprises: a) at least one wire electrode; and b) at least two transparent materials such that each of said transparent materials have a different index of refraction.”

Neither the Moore patent nor the Cheo patent, alone or in combination, teach or suggest a fiber with an electrode and at least two transparent materials that have different indices of refraction. Instead, the Moore patent discloses a fiber-based PALC (plasma addressed liquid crystal) display device including two plates sandwiched around a top fiber array and a bottom

fiber array. The top and bottom fiber arrays are substantially orthogonal and define a structure of the display, with the top fiber array disposed on a side facing towards a viewer. (see Abstract).

As discussed above, the Cheo patent explains the method of making a thin film electrooptic switch for the telecommunication industry. The only place in the Cheo patent that uses fibers is to bring the light signals into fiber optic transmission lines 38 and out of fiber optic transmission lines 46. (col. 4, lines 50-61). The waveguides in the WDM are etched into thin films and the lens 42 is used to split the different wavelengths into separate optical switches 32. The second lens 44 is used to recombine the non-selected wavelengths into the output fibers.

Although Cheo does use two different transparent materials with a different index of refraction, that by definition is how you create a waveguide in a plate or in a fiber. As an example, the change in index of refraction between the core where the light travels and the cladding is what keeps the light in the waveguide. The mere fact that Cheo discusses different transparent materials with different indices of refraction, without any mention of fibers as they relate to the present invention, does not create any motivation to combine Cheo with the Moore patent. Transparent materials with different indices of refraction are found in many applications. That is not enough to create an obviousness rejection of this claim.

Clearly, there is no motivation to combine the teachings of the Moore patent and the Cheo patent to teach or suggest claim 26. Applicant respectfully requests any obviousness rejection of claim 26 the Examiner intends to make be withdrawn.

Dependent claims 27-35, being dependent upon and further limiting independent claim 26, should also be allowable for that reason, as well as for the additional recitations they contain. Applicants respectfully request reconsideration of the rejection of claims 27-35, in view of the above amendments and remarks.

Rejection under 35 U.S.C. §102

5. Claims 38 and 39 were rejected under 35 U.S.C. 102(e) as being anticipated by Cheo *et al.* The Applicant respectfully traverses this rejection.

"Unless all of the same elements are found in exactly the same situation and united in the same way to perform the identical function in prior pleaded art, there is no anticipation."

Stauffer v. Slenderella Systems of California, Inc., 254 F.2d 127, 115 USPQ 347 (9th Cir. 1957).

Claim 38 reads "a method of creating a three-dimensional image in a display having multiple electrodes and lens curvatures at each pixel that define an appearance of depth of said image at each pixel, comprising: a) subdividing a voltage that creates said appearance of depth in at least one pixel location between more than one of said electrodes in said at least one pixel location such that said appearance of depth is perceived by a viewer to be between either appearance of depth created by applying said voltage to any one of said electrodes individually."

The Examiner points to Figs. 4-7 to support the anticipation rejection. The description of those Figures is found in col. 4, line 32 – col. 5, line 5.

Figs. 4 and 5 show configuration of the thin film electrooptic wave guide which contain arrays of electrodes rather than a single electrode, and which are adapted for integrated optical circuits. The coupling of the beam from a laser or a light emitting diode into the devices is illustrated schematically since the particular coupling technique..., will depend on factors such as beam wavelength, film thickness, etc. Coupling of the output may be performed by similar techniques.

In Fig. 4 a plurality of rectangular electrodes 30 are fabricated on thin film 10 with a programmable voltage wave form applied to each electrode. The Fig. 5 embodiment differs from that of Fig. 4 only in that the electrodes 30' are triangular or wedge shaped. Voltages V1, V2... Vn are applied to the electrodes as shown in the Figures....

Figs. 6 and 7 show a switching terminal configuration similar to that of Fig. 4 in that a plurality of rectangular electrodes 32 are fabricated on a thin film 34, the film being in turn fabricated on a conducting substrate 36. A plurality of fiber optic transmission lines 38 transmit input light signals from sources (not shown) through fiber couplers 40 and an embedded lens 42 into the thin film wave guide 34. After passing through the wave guide and a second embedded lens 44, the optical waves are coupled to one or more of a plurality of output fiber transmission lines 46 through fiber couplers 48. The light input from fiber couplers 40 spreads out by means of either beam expanding elements such as the lenses in the thin film or by diffraction when it reaches the thin film or by diffraction when it reaches the thin film emdium 34 as is shown by dotted lines 50. The lens element 42 is needed to collimate the diffracted light so that the transmitted light passes through the thin film in a direction parallel to the electrodes 32. By applying the desired voltage wave form to electrodes 32, the

incident light consisting of one or more input beams may be switched to any one or more of the output fiber optic transmission lines 46. Optical detectors may be used at the output in place of fiber optics. (col. 4, line 32- col. 5, line 5).

The description of these Figures in the Cheo patent does not discuss anything about creating a three-dimensional image in a display. Nor do these figures discuss subdividing a voltage that creates the appearance of depth in one pixel location. As discussed above, the Cheo patent explains the method of making a thin film electrooptic switch for the telecommunication industry. The only place in the Cheo patent that uses fibers is to bring the light signals into fiber optic transmission lines 38 and out of fiber optic transmission lines 46. (col. 4, lines 50-61). The waveguides in the WDM are etched into thin films and the lens 42 is used to split the different wavelengths into separate optical switches 32. The second lens 44 is used to recombine the non-selected wavelengths into the output fibers. The technology disclosed in Cheo has nothing to do with displays or creating an image. Therefore, claim 38 is not anticipated by Cheo.

Reconsideration and withdrawal of the rejection of claim 38 is respectfully requested.

Dependent claim 39, being dependent upon and further limiting independent claim 38, should also be allowable for that reason, as well as for the additional recitations they contain. Applicants respectfully request reconsideration of the rejection of claim 39, in view of the above amendments and remarks.

Rejection under 35 U.S.C. §103

8. Claims 36 and 37 were rejected under 35 U.S.C. 103(a) as being unpatentable over Cheo *et al*.
Applicant respectfully traverses this rejection.

Claim 36 reads “a method of creating a fiber for use in an electronic display comprising the steps of : a) forming a preform including at least two distinct materials to be used in said fiber; and b) drawing said preform to form said fiber.” The Examiner states that Cheo discloses all the limitations of the claimed invention “except for the steps of forming and drawing the preform to form the fiber by coextruding the distinct materials into a preform.” (present office action dated December 4, 2002, page 5, lines 10-12). Forming the preform is step a) of claim 36 and drawing the preform is step b). Therefore, as admitted by the Examiner, **none** of the steps of claim 36 are disclosed by Cheo. In fact, Cheo does not disclose any methods of forming a fiber.

The only place in the Cheo patent that uses fibers is to bring the light signals into fiber optic transmission lines 38 and out of fiber optic transmission lines 46. (col. 4, lines 50-61).

"The deficiencies of the cited references cannot be remedied by... general conclusions about what is "basic knowledge" or "common sense" to one of ordinary skill in the art.... With respect to core factual findings in a determination of patentability,... the... [Examiner] cannot simply reach conclusions based on its own understanding or experience - or on its assessment of what would be basic knowledge or common sense. Rather, the... [Examiner] must point to some concrete evidence in the record in support of these findings." *In re Zurko*, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001).

In addition, the Federal Circuit has held that the Examiner must identify the specific principle or objective teaching that would suggest the claimed combination. *see In re Lee*, 61 USPQ2d 1430, 1433-1435 (Fed. Cir. 2002) Unspecified common sense and common knowledge is not sufficient for obviousness. *see id.* The Patent Office is obligated to develop an evidentiary basis for its findings. *See id.*

Instead of satisfying this requirement, the Examiner continues the rejection by stating that forming and drawing the preform to form the fiber is considered to be obvious, "since the preform is a common method to build an optical fiber." The Examiner failed to point to any concrete evidence in the record to support her findings. Therefore, claim 36 is not obvious over Cheo et al. Reconsideration and withdrawal of the rejection of claim 36 is respectfully requested.

Dependent claim 37, being dependent upon and further limiting independent claim 36, should also be allowable for that reason, as well as for the additional recitations they contain. Applicants respectfully request reconsideration of the rejection of claim 37, in view of the above amendments and remarks.

Conclusion

Applicant believes the claims, as amended, are patentable over the prior art, and that this case is now in condition for allowance of all claims therein. Such action is thus respectfully requested. If the Examiner disagrees, or believes for any other reason that direct contact with

Applicants' attorney would advance the prosecution of the case to finality, he is invited to telephone the undersigned at the number given below.

"Recognizing that Internet communications are not secured, I hereby authorize the PTO to communicate with me concerning any subject matter of this application by electronic mail. I understand that a copy of these communications will be made of record in the application file."

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